

# APPLICATION FOR MATERIAL LICENSE

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

## FEDERAL AGENCIES FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION  
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS  
WASHINGTON, DC 20555

## ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
NUCLEAR MATERIAL SECTION B  
631 PARK AVENUE  
KING OF PRUSSIA, PA 19406

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION II  
MATERIAL RADIATION PROTECTION SECTION  
101 MARIETTA STREET, SUITE 2900  
ATLANTA, GA 30323

## IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
MATERIALS LICENSING SECTION  
799 ROOSEVELT ROAD  
GLEN ELLYN, IL 60137

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
MATERIAL RADIATION PROTECTION SECTION  
611 RYAN PLAZA DRIVE, SUITE 1000  
ARLINGTON, TX 76011

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION V  
MATERIAL RADIATION PROTECTION SECTION  
1450 MARIA LANE, SUITE 210  
WALNUT CREEK, CA 94596

PERSONS LOCATED IN: AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.

1. THIS IS AN APPLICATION FOR (Check appropriate item):

- ☐ A. NEW LICENSE  
☒ B. AMENDMENT TO LICENSE NUMBER SNM 1872  
☒ C. RENEWAL OF LICENSE NUMBER SNM 1872

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip Code):

The Five Four Three Co., Inc.  
Route 8, Box 228  
Morgantown, WV 26505

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED:

At temporary job sites of the licensee in the United States under jurisdiction of the N.R.C., and analytical samples listed in Subitem C may be used at the licensee's facilities at the Main East Research Center (MERC), Route 8, Morgantown, West Virginia

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION:

Robert F. Stewart, President The Five Four Three Company  
Rt. 8, Bx 228, Morgantown, WV 26505

TELEPHONE NUMBER

304-292-9729

SUBMIT ITEMS 5 THROUGH 11 ON 8 1/2 x 11 PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL:

a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED:

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE:

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS:

9. FACILITIES AND EQUIPMENT:

10. RADIATION SAFETY PROGRAM:

11. WASTE MANAGEMENT:

12. LICENSEE FEES (See 10 CFR 170 and Section 170.31):

FEE CATEGORY 1J AMOUNT ENCLOSED \$ 120.00

13. CERTIFICATION (Must be completed by applicant): THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948, 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

SIGNATURE—CERTIFYING OFFICER

TYPED/PRINTED NAME

TITLE

*R.F. Stewart*

Robert F. Stewart

President

*revised on 8/23/85  
3/4/85*

14. VOLUNTARY ECONOMIC DATA

1. ANNUAL RECEIPTS  
☒ < \$250K  
☐ \$250K - 500K  
☐ \$500K - 750K  
☐ \$750K - 1M

2. NUMBER OF EMPLOYEES (Total for entire facility excluding outside contractors):

TWO

3. NUMBER OF BEDS:

NONE

4. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Dollar and/or staff hours) ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE PROPOSED NRC REGULATIONS THAT MAY AFFECT YOU? (NRC regulations permit it to protect confidential commercial or financial—proprietary—information furnished to the agency in confidence):

☒ YES

☐ NO

FOR NRC USE ONLY

TYPE OF FEE

FEE LOG

FEE CATEGORY

COMMENTS

APPROVED BY

*Amendment May 5 II 1K 3P*

*May 5 II 1K 3P*

*3P*

*3P*

*Allen Cabell*

AMOUNT RECEIVED

CHECK NUMBER

DATE

*\$120*

*1232*

*7/3/85*

PRIVACY ACT STATEMENT ON THE REVERSE

## Attachment to License Application

Application is made to renew NRC License No. SNM 1872 without change, and to amend the license to permit possession and temporary storage of a 300mCi Am 241 source, outside of the state of Kentucky, incidental to providing radiological services at the South East Coal Company, Irvine, Kentucky. This Kentucky installation is authorized under Kentucky license IND-248-56 to the South East Coal Company providing for the installation and operation of a Berthold Ash Analyzer with radiological services provided by any persons specifically authorized by the Nuclear Regulatory Commission or an Agreement State.

The format of this application is in accordance with "Guide for the Preparation of Applications for Licenses for the Use of Sealed Sources in Nonportable Gauging Devices" for comment, January 1985, particularly pages 13 to 15. Applicant states that review has been made of the current license SNM 1872 Amendment 01 and that the information previously submitted about sealed sources and devices accurately represents the current and anticipated program, including the Berthold Ash Analyzer. No additions, deletions or other changes are necessary except for addition of the Berthold Ash Analyzer.

The licensee shall possess and use licensed material described in Items 6, 7, and 8 of license number SNM 1872 in accordance with statements, representations and procedures contained in applications (letters) dated November 3, 1978; July 22, 1980; March 30, 1983; and June 30, 1985. Telegram dated July 12, 1983, letter dated July 13, 1983 and the enclosures of this application.

The following information submitted concerning items 5 through 11 are concise summaries of the above applications together with information about the Berthold Ash Analyzer

#### Item 5 Radioactive Material

a. Element & Mass Number	b. Chemical/Physical Form	c. Maximum Amount
A. Plutonium 238	A. Sealed Sources (Amersham Model PPCL)	A. 2 sources not to exceed 10 millicuries each
B. Curium 244	B. Sealed Sources (Amersham Model CLCL)	B. 18 sources not to exceed 20 millicuries each
C. Americium 241	C. Sealed Sources (Amersham Model AMC.66)	C. 10 sources not to exceed 50 millicuries each
D. Any byproduct material and plutonium.	D. Analytical Samples	D. Not to exceed 10 micro- curies per sample or wipe.
E. Americium 241	E. Sealed Source (Amersham Model AMC17)	E. One only 300 millicurie source.

#### Item 6 Purpose(s)

A, B, and C. For storage, use and/or possession incident to:

- (1) Installation into or removal from Gunson Sortex Company, Ltd., Model Phase III-A-2 Ash Monitors or Wultex Model WXGI Ash Meters.
- (2) Installation, relocation, repair, testing, performance of radiation surveys and servicing of the ash monitors and meters.
- (3) Picking up, packaging, and transfer of the sealed sources specified above and received from customers for transfer to authorized recipients.
- (4) Instruction of individuals in the use of the ash monitors and meters.

D. Possession incident to the collection and analysis of leak test samples (wipes) of the sealed sources specified above.

E. For storage, use and/or possession in West Virginia incidental to providing radiological services within an Agreement State.

#### Item 7 Individual Responsible for Radiation Safety Program

Robert F. Stewart, Nuclear Chemist, will be solely responsible for installation into or removal from of the Americium source in the Berthold Ash Analyzer Model LB360-AS at the South East Coal Company. This will include ordering, transfer, installation, repair, testing, performance of radiation surveys, servicing and wipe testing, installation of barriers and locking devices, posting of notices and institution of record keeping and test reports. Experience and training includes twelve (12) years of operating the Bureau of Mines Radioisotope Laboratory, Morgantown, WV, and nine (9) years of installing and servicing Cendrex, Sortex and Wultex ash meters at coal plants, and two R&D experimental programs of developing and operating moisture and sulfur meters in coal preparation plants. Publications and patents describing the results are available as references.

#### Item 8 Training of Individuals

All service operations at the South East Coal Company will be performed by Robert F. Stewart of the 543 Company based on manufacturer's instructions. The Berthold Ash Analyzer is so designed that no personnel exposure can occur in operation. Should any instrument adjustment or malfunction occur in initial testing that permits any possibility of personnel exposure (as indicated by radiation surveys and portable monitors), Robert F. Stewart will install or cause to have installed such physical barriers as fences and locks to prevent any personnel exposure. The meter area will be restricted but will not be a radiation area, except during source installation and removal.

Initial testing of the Berthold Ash Analyzer will be conducted by Robert F. Stewart to determine adjustments and accuracy. If satisfactory and safe operation is obtained, calibrating the analyzer with two different coals, such that additional installations may prove to be feasible and desirable, the 543 Company will write detailed step-by-step operating procedures including emergency procedures appropriate for commercialization and licensing. This will include training of operators and other personnel.

#### Item 9 Facilities and Equipment

Since the Berthold Ash Analyzer is self-contained, without measurable radiation at any accessible surface, it is only necessary to maintain a restricted area and to provide survey meters during installation and possibly during adjustment. The Berthold Ash Analyzer will be located in a locked metal room of the plant, directly underneath a Sortex Ash Meter which has operated safely for five years. Access to the Berthold analyzer will be by key maintained by the plant radiation safety officer, John Nutter, for emergency use only. For emergency use, a radiation survey meter is maintained by John Nutter and the facilities of the 543 Company are available as backup equipment.

#### Item 10 Radiation Safety Program

Although a plant radiation safety program exists at South East Coal Company for other radiation meters, the Berthold Analyzer is experimental and outside the plant program until operating procedures are written and justified by satisfactory initial test results.

#### Item 11 Waste Management

All sealed radiation sources are disposed of by transfer to the supplier, the Amersham Company. No other waste materials occur.